

**Contributions to a knowledge of the LEPIDOPTERA  
of West Africa.**

BY REV. W. J. HOLLAND, D.D., PH.D.

PAPER II.

List of African SPHINGIDÆ received during the years 1887 and 1888.

It requires some degree of assurance on the part of the student to publish a species as new to science when he reflects upon the manner in which the earth has been scoured in every direction by ardent collectors in quest of the curious and the beautiful in nature. The dark forests and grassy prairies of equatorial Africa are, however, as yet to some extent a *terra incognita* to the entomologists of the world, and they teem with the most beautiful and curious forms of insect life. It is from this region that the species described in the following paper have come, and I am indebted for the specimens upon which my descriptions are based to the Rev. A. C. Good, of the American Presbyterian mission at Gaboon, and to Mrs. Louise Reutlinger, of the same mission, who was stationed during her stay in the country at Benita. The specimens collected by Mr. Good were taken principally at Kangwé, upon the banks of the Ogové River, about 165 miles from its mouth. Kangwé is only two or three miles from the Equator. Benita is a mission station upon the coast about 110 miles north of the Equator.

In studying the specimens before me I have availed myself of all the literature upon the subject accessible to me, yet regret that I have been unable to consult one or two papers by the Dutch entomologists which treat of the African Heterocera. I am under special obligations to Mr. Arthur G. Butler, F.L.S., F.Z.S., and Mr. Herbert Druce, F.L.S., F.Z.S., for invaluable assistance most freely and courteously extended to me in the determination of some of the species named in this paper. Their opinion that what I have ventured to describe as species new to science are such indeed, has greatly encouraged me in venturing upon the publication of the following pages.

## SPHINGIDÆ.

## Subfamily MACROGLOSSINÆ.

Genus **MACROGLOSSA** Ochs.

1. **Macroglossa trochiloides** Butl., P. Z. S. 1875, p. 5, No. 6; Trans. Z. S. London, vol. ix, p. 525.

This species was originally described by Mr. Butler from specimens received from Sierra Leone. I have received specimens both from the Ogové and from Benita. It is a common West African insect.

2. **Macroglossa Falkensteinii** Dewitz, Mitth. d. Münch. Ent. Vereins. 1879, p. 24.

I am indebted for the identification of this beautiful species to Dr. H. Dewitz, of Berlin, who, with the most distinguished courtesy, presented me with the original drawings from which the plates illustrating his article in the Transactions of the Munich Society were made.

*Hab.*—Benita (Reutlinger), Kangwé (Good).

Genus **HYPEDALEA** Butler.

3. **Hypedalea insignis** Butl., Trans. Ent. Soc. London, 1877, pp. 397-98. Plate ix, fig. 3.

This insect, which Mr. Butler aptly characterizes as "one of the most singular of the *Sphingidæ*, exhibiting affinities to *Lophura*, *Pachygonia*, *Rhodosoma* and *Sataspes*," was described from a specimen in the collection of the Royal Dublin Society which came from Sierra Leone. Since then the British Museum has acquired a specimen from the Cameroons. There is nothing in Mr. Butler's description to indicate the sex of the type. The unique specimen in my collection, which was taken at Benita, is, I think, a female. The antennæ are longer and slenderer than in the figure given in the Trans. Ent. Society, and the body is heavier.

Genus **AELLOPUS**.

4. **Aellopus Commasiæ** Walk., Pl. II, fig. 1. *Macroglossa Commasiæ*, Walker, Lep. Het. viii. p. 90, No. 9, 1856. Boisduval, Species Général, *Sphingides* vol. i. p. 357, 1874. *Aellopus Commasiæ*, Butl., Revis. Sphingidæ, Trans. Z. S. London, vol. ix. p. 530, 1876.

Boisduval remarks, "Ce rare et joli Macroglousse se trouve à Commassia,\* près de Sierra Leone. Nous l'avons décrit au British Museum sur un individu unique."

\* Coomassie ?

As no figure of this beautiful little insect has ever been published I give one in order to facilitate the labors of future students. The only specimen in my collection was taken at Kangwé, and is singularly fresh. Whether it is a bred specimen I have no means of determining.

**PSEUDENYO** gen. nov.

Having a superficial resemblance to the American genus *Enyo* Hüb. The abdomen is relatively shorter than in *Enyo*, broad, somewhat abruptly rounded off behind and flattened on the ventral aspect as in *Aellopus*, *Thyreus* and some other Macroglossine genera. Vestiture of the head, thorax and abdomen smooth, silky, forming a low, narrow crest upon the head between the insertion of the antennæ, and in the male produced in the form of an anal tuft, and lateral pencils upon the sides of the last four ventral segments. In the female the anal tuft and the pencils of hairs upon the sides of the abdomen are wanting or but feebly developed. The palpi are densely clothed with long silky hair, produced, subconic, appressed, very much as in *Lophura*. The antennæ are of medium length, almost uniform thickness throughout, slender and gently recurved at extremity, very minutely toothed in the male, slenderer and entirely without teeth in the female. Legs in both sexes alike, unarmed, except for the usual spurs of the middle and hind tibiæ, the forelegs shorter than the others, with subcylindrical tibiæ, the middle and hind legs with flattened tibiæ and femora.

PRIMARIES relatively of normal length, the apex truncated and slightly excavated, the outer margin very slightly toothed save at the extremity of the disco-central nervule where it is strongly produced. Inner margin of the outer half deeply concave, on the inner half convex.

SECONDARIES narrow, rounded at apex; anal angle produced, broad, obtuse. Type—*Pseudenyo Benitensis*.

5. **Pseudenyo Benitensis** n. sp. **Plate II, fig. 2.** ♂.

♂.—Upperside of head and body dark rich brown, lower side of palpi, thorax and abdomen tinged with red, shading into faint crimson; an obscurely defined patch of the same red occurs on the side of the fourth segment of the abdomen. Antennæ testaceous, lighter below. Legs of the same general color as lower side of abdomen, spines on tibiæ tipped minutely with white. UPPERSIDE.—Primaries brown, with a purplish cast, the basal half paler than the rest of the wing, with a somewhat broad shade of brown on the costa near the base, followed by two irregular and somewhat indistinct dark lines running from the costa

obliquely in the direction of the base across the wing. These lines are followed by a lighter shade, which, upon the internal margin becomes pale gray; a broad shade of bluish black sweeps from the middle of the inner margin upward and outward to near the extremity of the discal cell, where it is interrupted by a patch of paler color, in the midst of which is the exceedingly minute white discal spot; beyond this spot the shade of bluish black sweeps outward in the form of an undulating dash, the outer extremity of which rests upon vein seven, the subcosta-postapical nervule; a dark brown submarginal shade runs from the costal margin with diminishing breadth to the internal angle. In the subtriangular patch of lighter color included between the dark median and the submarginal shades appear two indistinct annules of dark brown. At the extremity of the primaries are two dark brown lunules; the *posterior wings* are broadly dark brown with obscure median and submarginal bands of black. The inner margin is broadly orange yellow and the tip of the tooth-like prolongation of the anal angle is white. **UNDERSIDE.**—*Primaries* dark brown, save on the costa and outer margin, where there are some light pearly gray marks, and at the internal angle, where is a broad subtriangular patch of light red. The *secondaries* have the red shade of the primaries produced across their middle and interrupted by a median and submarginal line of dark brown. Costa and outward margin dark brown.

♀.—Does not differ from male, save in the somewhat lighter tone of the wings and the absence of the pencils or tufts of hair upon the sides and tip of the abdomen. Expanse ♂, 2½ in.; ♀, 2½ in.

Described from two males and one female in coll. Holland. From Benita (Reutlinger).

### **EULOPHURA** gen. nov.

Head small, slightly retracted under the prothorax; eyes of moderate size. Antennæ less than one-half the length of the costa of the anterior wing, slender, and with a very short hook at the extremity; palpi densely clothed with silky scales, subconic, appressed, moderately produced. Thorax densely covered with a smooth and silky vestiture, patagiæ inconspicuous. Abdomen stout, somewhat flattened on ventral aspect, and in the male provided with a broad fan-shaped anal tuft; anterior wings deeply excised on external and sinuate on internal margins, *not toothed*; inferior wings rounded at apex and slightly produced near the anal angle at extremity of submedian vein, *margins entire*. Type—*E. atrofasciata*.

Species:

*Eulophura atrofasciata* Holland.

“ *sardanus* Boisduval.

NOTE.—The genus *Lophura*, originally indicated by Boisduval and adopted by Walker, for a number of years appeared to be a

sort of "refuge for the destitute," and an examination of the insects included under this generic appellation shows that forms widely discordant in structure have been brought together under this name. In the "Revision of the Sphingidæ" by Mr. Butler, the best conspectus from an English authority which has as yet appeared, such widely different forms as *plagiata* Walker, *sardanus* Boisduval, and *pylus* Cram., are brought together under *Lophura*. In the "Species Général" Boisduval effected a partial division of the species for the most part originally assigned by himself to the genus. He separates the forms having untoothed anterior wings into a group to which he gives the name *Ocyton*; puts the forms having dentated anteriors by themselves into a genus which he names *Aspledon*, and restricts *Lophura* proper to two small Asiatic forms.\* Boisduval is, however, consciously inconsistent in referring his *Sardanus* to *Aspledon*. Walker had classified it with *Enyo*. In locating *Sardanus* in the genus *Aspledon* Boisduval expresses reluctance, and the opinion that a subgenus should be created for its reception. Mr. Butler, to whom I referred a figure of *Atrofasciata*, has assured me that structurally it is very near *Sardanus*, the type of which is in the British Museum. I have therefore resolved to do what Boisduval fourteen years ago suggested, and have created the genus *Eulophura*, to which I refer these two allied forms. I hope none of the "irascible genus" of Lepidopterists will "get mad" at what I have done.

6. ***Eulophura atrofasciata*** n. sp. **Plate II, fig. 3.**

"Near *Sardanus*" A. G. Butler *in litt.*

♂. **UPPERSIDE.**—Palpi, head, thorax and abdomen dark brown, shading into reddish on the sides of the abdomen. *Primaries* boldly excised on outer margin below apex, produced inferiorly at external angle and sinuous on inner margin; basal portion lilac gray shaded with brown next to thorax and marked within this shaded part by two obscure transverse lines. A broad band of dark velvety brown crosses the wing obliquely, its inner margin running in an almost straight line from the middle of the costa to the internal angle, its outer margin which is boldly sinuate, reversing the curves of the outer margin of the wing. *Secondaries* uniformly dark reddish brown, fringes narrow, light reddish gray, interrupted with brown at ends of nervures. Anal extremity of the abdomen provided with a conspicuous brush of hairs.

**UNDERSIDE.**—Palpi whitish. Thorax and abdomen light brown, tinged with yellow and thorax. Legs reddish gray. *Primaries* dull red, shaded on the discal area with black and tinted with yellow at base of costa. *Secondaries* dull red, shading rapidly from outer margin toward the base into orange yellow. Two exceedingly obscure brown submarginal lines appear on secondaries, and one on the primaries. Expanse of wings 50 mm.

Benita (Reutlinger). Described from one male in my collection.

\* The forms since assigned to *Lophura* are all Asiatic so far as I have observed.

Genus **OCYTON** Boisid.7. **Ocyton scitula** n. sp. **Plate II, fig. 4.**

UPPERSIDE.—Head, patagiæ and abdomen reddish cinereous, except first segment of abdomen, which is dark brown. *Anterior wings* cinereous, with a lilacine lustre. Markings dark brown, as follows: just before the base two transverse lines distinct on costa, but obscure on inner margin, then a broad, brown shade, sharply angulate near the costa, obsolete on the cell, but very distinct on inner margin; a second broad shade of brown runs from the middle of the costa to the external angle, well defined on the inner margin, but diffuse toward the side of the apex; at the inner angle this shade is preceded by a subquadrate brown spot defined on the side of the external margin of the wing by white; the broad central band of brown is followed toward the apex by three curved brown lines darkest on the costa, and converging to a small white submarginal spot situated between the fourth and fifth veins. A broad lunular shade adorns the outer margin extending from the apex to the angle, which lies midway between the apex and the posterior margin. Fringes of the same color as the body of the wing, exceedingly narrow and very obscurely checkered with lighter color toward the internal angle. *Posterior wings* dark brown, with a very obscure submarginal fascia of vinous red. Fringes narrow, checkered with white on the intra-neural spaces.

UNDERSIDE.—Palpi, thorax and legs ashen gray. Abdomen red, with a white spot on the middle of the edge of the first four abdominal segments. *Anterior wings* cinereous on costa, broadly reddish brown on discal area, bright red on the median area and broadly lilacine on the margin, crossed by a number of obscure lunulate bands of brown; the white spot between veins four and five, and three white spots near the external angle, very distinct. *Posterior wings* red, shading into cinereous at base and testaceous on outer margin and traversed by four narrow and somewhat obscure bands of brown, parallel to the outer margin.

The female does not differ in coloration from the male, and is distinguished simply by her larger size and the absence of teeth on the antennæ. Expanse of wings ♂, 50 mm.; ♀, 54 mm.

Described from two males and one female in coll. Holland.

*Hab.*—Benita (Reutlinger).

8. **Ocyton lapygoides** n. sp. **Plate II, fig. 5.**

UPPERSIDE.—Head, thorax and abdomen light brown, inclining to red on abdomen and darkest on thorax. *Anterior wings* light reddish gray, traversed by four series of greenish brown lines obsolete on costa, but growing darker and more distinct toward inner margin; a broad brown shade extends diagonally from the middle of the costa to the internal angle, and is followed by two somewhat curved parallel lines, dark and well defined toward costa, and absorbed into the broad diagonal shade at the internal angle. Three minute black dots appear on the outermost of these lines located respectively on veins 4, 5 and 6. The outer margin is adorned by a lunular shade of dark brown extending from just below the apex to the middle of the margin as in *O. scitula*, but narrower than in that species. *Posterior wings* dusky, with a faint submarginal band of red. Fringes narrow, white, checkered with dusky at tips of veins.

UNDERSIDE.--Palpi, thorax and abdomen light reddish gray. *Anterior wings* dusky from base to beyond middle, then crossed by three transverse bands of obscure red lunules, the uppermost of which on the costa shade into whitish gray. Margin broadly lilacine gray. *Posterior wings* red, traversed by a narrow median and submarginal band of brown. Margin narrowly lilacine gray.

The female is somewhat darker in color and the markings more obscure than in the male. Exp. of wings ♂, 46 mm.; ♀, 50 mm.

Described from three males and one female in coll. Holland.

*Hab.*—Benita (Reutlinger).

9. **Ocyton Reutlingeri** n. sp. **Plate II, fig. 6.**

Nearly allied in form and coloration to *Iapygoides*, but quite distinct. The primaries are not angulate on the outer margin as in the two preceding species, but are evenly convex, and the internal angle is very slightly produced.

UPPERSIDE.—Palpi, head, thorax and abdomen olivaceous. *Anterior wings* olive gray, with exceedingly indistinct, transverse bands in the basal area; an obscure shade of darker olivaceous crosses the wing obliquely from the middle of the costa to the internal angle, and is followed by a broad ashen gray space upon the apical third uninterrupted save by a row of four minute dots situated upon veins 3, 4, 5 and 6. A dark triangular subapical spot is situated upon the costa and a faint lunulate shade is situated upon the outer margin just below the apex. The fringe is white, conspicuously checkered by black at the extremities of the veins. *Posterior wings* uniformly black, with white fringe checkered with black as the anteriors.

UNDERSIDE.—*Anterior wings* reddish gray, broadly shaded with fuliginous on the basal and median area. Two indistinct undulate submarginal lines extend from costa to inner margin. *Posterior wings* uniformly reddish gray, traversed by narrow and well defined median and submarginal lines. Fringes as on upper side. Palpi grayish white. Thorax, legs and abdomen gray. Expanse of wings 42 mm.

Described from a very fresh and perfect male in coll. Holland.

*Hab.*—Benita (Reutlinger).

10. **Ocyton Eranga**\* n. sp. **Plate II, fig. 7.**

Nearly allied in general appearance to *scitula*, the outer margin of the primaries angulate and not convex.

UPPERSIDE.—Head and thorax dark gray, inclining to ferruginous. Abdomen light fawn. *Anterior wings* having at the base a dark transverse shade, succeeded by a band of cinereous, broadest on the cell, bounded internally and externally by lighter lines and traversed through the centre by a geminate line of dark brown. Beyond this a dark shade traversed by two or three darker lines; just before the internal angle a subquadrate dark spot bounded externally by white; a broad band of dark brown as in all the previously described species runs diagonal from the costa to the internal angle and is followed by three undulate lines sharply defined upon the light gray apical tract. Of these lines the outermost consists of a dark subapical costal spot, followed by a row of dark lunules bounded inwardly by grayish white; the subapical lunular shade appears upon the outer

\* In the Mpongwé dialect "a beauty."

margin as in *scitula*. Fringe white, checkered with black. *Posterior wings* brown, darkest upon the margin, with an obscure submarginal band of ferruginous. Fringe as in primaries.

UNDERSIDE.—*Anterior wings* smoky gray, with a lilaceous submarginal shade, defined inwardly by a row of yellow lunules extending from the costa to the internal angle and preceded toward the base by a band of ferruginous spots. *Posterior wings* light ferruginous, except on margin, which is broadly lilac gray, preceded by a narrow band of yellowish red lunules; a narrow, median, transverse band and a still narrower and fainter submedian band traverse the wing from the costa to the inner margin. Palpi, thorax and legs ashen white, abdomen tinged with light ferruginous. Expanse of wings 38 mm.

Described from one female in coll. Holland from Kangwé (Good).

This species may be distinguished from *scitula*, which at first sight it resembles, by the absence of the submarginal white spot in the primaries, the more intricate style of the markings and its smaller size.

### Subfamily CHÆROCAMPINÆ.

#### Genus PANACRA Walker.

11. **Panacra Saalmülleri** Moeschler, Abhandl. d. Senckenb. Naturf. Ges. Bd. xv. p. 68. Plate I, fig. 23 (1887).

“Very closely allied to my *P. imitans*, which mimics the Malagasy *Chærocampa Geryon*,” A. G. Butler *in litteris*.

Benita (Reutlinger).

#### Genus BASIOTHEA Walker.

12. **Basiothea idricus** Drury. Illustrations, vol. iii. pl. ii. fig. 2 (1793).

I have a number of the bred specimens of the imago and the cast-off pupa cases, but the latter are hardly in such condition as to justify an attempt to frame a description or prepare a figure. They strongly remind me of the pupa of *Chærocampa tersa*, the common *Chærocampa* of the United States.

Benita, Gaboon, Kangwé.

#### Genus DIODOSIDA Walker.

13. **Diodosida fumosa** Walker, Lep. Het. viii. p. 193, No. 3 (1856). *Zonilia fumosa* Boisd., Spec. Gen. Crepusculaires, vol. i. p. 144.

Walker's type was from the Congo, and is in the British Museum. Boisduval based his description upon an example from the Guinea Coast.

Kangwé (Good).



Genus **CHÆROCAMPA** Duponchel.

14. **Chærocampa eson** Cram., Pap. Exot. iii, p. 57, pl. 226, fig. C (1782).  
Boisduval, Spec. Gén. Crepusc. vol. i, p. 232-33 (1874).

Benita. Six males and females.

15. **C. charis** Walker, Lep. Het. viii, p. 136, No. 15 (1856). Boisduval, loc. cit. p. 236, plate vi, fig. 4 (1874).

Apparently common at Benita and Kangwé.

16. **C. celerio** Linn., Syst. Nat. i. 2, p. 800 (1766). Cram., Pap. Exot. ii. p. 42, plate xxv, fig. E (1779).

Two fine examples. Benita.

17. **C. balsaminæ** Walker, Lep. Het. viii. p. 138, No. 18 (1856). Boisduval, loc. cit. p. 232 (1874).

One example. Benita (Reutlinger).

18. **C. irregularis** Walker. **Plate III, fig. 3.**

*Pergesa irregularis* Walker, Lep. Het. viii. p. 152, No. 4 (1856).

Mr. Butler, in response to my inquiries, after seeing a specimen which I sent him, writes: "It is allied to the Asiatic types of *Pergesa*, but whether it really belongs to that genus, or to *Chærocampa*, I am not prepared to say without a careful comparison of the structure of the two genera. I suspect your localization is more correct, and that it belongs to the *C. clotho* group of the latter genus. Walker's type is in poor condition."

I am a little in doubt as to the correctness of my reference to *Chærocampa*, but with what knowledge I have of the species of *Pergesa*, found in China and Japan, I am unwilling to leave this fly in their company.

19. **C. livida** n. sp. **Plate III, fig. 4.**

UPPERSIDE.—Head, thorax and abdomen slaty gray, darkest on the median line between the eyes and on the front of the thorax. Primaries slaty gray, a very obscure angulated band of a rusty brown color crosses the wing just beyond the base; on the inner margin just before the internal angle is a subquadrate spot of the same color; a dark, ill defined shade crosses the wing diagonally beyond the middle of the costa and extends almost to the internal angle; a subapical spot on the costa and two subapical lunules of rusty brown on the outer margin complete the list of the distinctive markings of the primaries. Secondaries uniformly black. The fringes of both primaries and secondaries narrow, white, marked by the dark ground color of the wings at the end of the veins.

UNDERSIDE.—Palpi, thorax and abdomen lighter in color than upper surface; the first pair of legs is whitish, the middle and hind pair of the same general

color as the adjacent parts of the body. Primaries and secondaries rusty gray, except the discal area of the primaries, which is black; a few faint lines and marks appear on the lighter surfaces. Expanse 70 mm.

Described from two specimens in coll. Holland.

*Hab.*—Benita (Reutlinger).

NOTE.—I had the pleasure of communicating one of my types to the British Museum with some other specimens, and Mr. Butler, upon examination of the sending, informs me that in his judgment *Charocampa livida* is unnamed hitherto, although the British Museum possesses a worn specimen from Old Calabar.

#### Genus **DAPHNIS** Hüb.

20. **D. Nerii** Linn., Syst. Nat. 12, p. 798, No. 5 (1766).

I have three fine specimens of this widely distributed hawk moth, two of them bred at Kangwé, one taken at Benita. They are larger than European and Palestinian examples in my collection.

#### Subfamily SMERINTHINÆ.

#### Genus **POLYPTYCHUS** Hüb. (restricted by Butler.)

21. **P. Goodii** n. sp. **Plate IV, fig. 2.**

UPPERSIDE.—Head and thorax deep fawn, tinged with pink near tips of the patagiæ. Abdomen very light gray, almost white, shading at the sides and end into rosy fawn. Anterior wings much produced and falcate at apex, and deeply scalloped on the external margin at each neural interspace. The general tint of the primaries is a rich warm fawn; on the inner margin at the base is a tuft of hairs of a deep rose-madder tint, followed by a dark basal transverse line and two discal transverse lines, the outermost of which is very irregular and sinuate, suggesting with the discal dot, which is black pupiled with white, the outlines of a human face. This line is followed by two somewhat parallel lines of the same shade, which is succeeded by a narrow, black, submarginal line, extending from just below the apex to vein 3, where it is lost in a space densely irrorated with blue-black scales. The posterior wings are creamy white on the costa, light fawn on the inner margin, anal angle and fringe, and deep rose-madder over the rest of their surface.

UNDERSIDE.—Palpi, thorax, abdomen, femora of the first two pairs of legs and the last pair of legs throughout dark fawn, the tibiæ and tarsi of the two anterior pairs of legs are rosy and covered densely with blackish scales externally. Anterior wings of the same general color as above, but the marking more obscure, the costa and the internal margin white, and the disc rose-madder. Posteriors white, shading toward margin into light rosy fawn, the internal margin broadly rose-madder; two light brown lines originating on the costa beyond the middle traverse the wing and converge at the anal angle. Expanse of wings 110 mm.

Described from one female specimen in coll. Holland.

*Hab.*—Upper Ogové River (Good).

**DEVITZIA** gen. nov.

Head small, slightly crested between antennæ. Eyes of medium size, prominent, without lashes. Palpi small, reaching only to the middle of the front, densely clothed, the vestiture of the first joint directed downward and of the second and third forward and upward leaving apparently a wide notch between the first and second joints. Antennæ biciliate; tongue very short, almost obsolete. Abdomen of medium length, narrow, terete. Costa of primaries straight, rounding at apex, apex acute, external margin nearly straight, internal margin slightly sinuate and produced at internal angle. Posteriors subpyriform, margin entire, rounded outwardly and slightly produced at extremity of the submedian vein. Vestiture of head and thorax somewhat coarse and shaggy, the general coloration ashen gray shading into pale brown.

NOTE.—In the Mitth. des Münchener Ent. Vereins for 1879, Dr. Dewitz described and figured an aberrant Smerinthine form under the name of *Smerinthus Pechuelii*. The type was a female; since then I have received specimens of a form closely allied to that described and figured by Dr. Dewitz. I cannot, however, bring myself to locate this insect with any sense of satisfaction in any of the Smerinthine genera known to me, and, at the risk of animadversion on the part of the "lumpers," I have resolved to set up a genus, to which I refer the forms *Pechuelii* Dewitz and *paupercula, mihi*.

22. **Devitzia paupercula** n. sp. **Plate IV, fig. 1.**

UPPERSIDE.—Coloration uniformly ashen gray, lightest on abdomen and internal margin of secondaries, inclining to pearly gray on costa and outward margin of primaries: a small reddish brown spot near the base of the primaries; discal dot at end of cell gray, pupiled with dirty white; very indistinct zigzag discal and median transverse lines; veins 3, 4, 5 and 6 each ornamented just before their extremity by two minute patches of raised black scales; near the apex on the costa is a triangular patch of pale brown, and on the inner margin just before the internal angle is a subquadrate spot of darker brown. Fringe of primaries checkered with dark gray on extremities of veins.

UNDERSIDE.—Uniformly lighter than upperside. Primaries and secondaries crossed beyond middle by two exceedingly faint, zigzag, transverse lines, and a series of minute black marginal dots on each vein. The fringe of the primaries is darker on the underside than on the upper, and is faintly but regularly checkered with white on the intraneural spaces. The fringe of the secondaries is of the same color as the adjacent parts of the wing and not checkered.

\* In honor of Dr. H. Dewitz, the Curator of the Zoological Museum of the University of Berlin, whose contributions to a knowledge of the African insect fauna have recently been frequent and valuable.

NOTE.—The coloration of the genus faintly suggests *Cressonia*. The structure is very different, and reminds me of some Noctuidæ. Expanse of wings ♂, 70 mm.

Kangwé (Good).

Genus **BASIANA** Walker.

23. **Basiana Hornimanni** Druce. **Pl. III, fig. 5**; ♂, **fig. 6, pupa.** Entomologist's Monthly Magazine, vol. xvi. p. 268 (1880).

I submitted a rough sketch of the insect, a figure of which I give in the plate, to Mr. Druce, who identified it as *Hornimanni*. From the extremely brief description in the "Entomologist's Monthly Magazine" I should never have been able to have determined the species. My specimens, a male and a female *ex larva*, are singularly fresh and perfect, and reveal many points to which Mr. Druce does not allude in his description. I question the reference of this species to *Basiana* of Walker. The truncated apex of the primaries and the slenderer form are differentiating marks worthy of attention. Expanse 4½ inches.

24. **B. enodia** n. sp. **Plate IV, fig. 3.**

UPPERSIDE.—Head, thorax and abdomen dark brown, with a few glaucous scales mingled with the vestiture of the top of the thorax. Primaries and secondaries of the same general color as the body; at the base of the primaries is a small patch of bluish green scales in the middle of which is a minute annulus of raised blackish scales. The wing is covered by a number of transverse waved lines, of which those on either side of the discal spot are double. The discal spot is large, rhombic, composed of light greenish gray scales bordered with dark brown; just before the apex and the internal angle are spots of an ill-defined shape of the same glaucous scales; the costa of the posterior wings is light brown, the remainder of the wing dark brown, adorned at the anal angle by a patch of blue-green scales. The end of the cell is marked by a line of dark raised hairs; the external margin, which is slightly excavated beyond the submedian nerve and crenulated, is faintly fringed with white in the indentations.

UNDERSIDE.—Thorax and abdomen vermilion; tibiæ and tarsi of legs dark gray. Primaries light brown, shading into red on the limbal area; margin widely brown, a blue-gray spot at apex, and two ill-defined yellow streaks on limbal area between veins 2 and 4, bounded internally and externally by the geminated waved lines which starting on the outer third of the costa traverse the wing to the inner margin. Secondaries broadly vermilion from base outwardly as far as the waved submarginal line, beyond which they are darker and dusted with bluish gray scales. Expanse of wings 100 mm.

Described from one slightly damaged female in coll. Holland.

Kangwé (Good).

## Subfamily ACHERONTINÆ.

Genus **ACHERONTIA** Hüb.

25. **A. Atropos** Linn. *Sphinx Atropos* Linnaeus, Mus. Lud. Ulr. p. 348, No. 8 (1764). *Acherontia Atropos* Hüb., Verz. bek. Schmett. p. 139, No. 1494 (1816).

The specimens of this insect I have received from Gaboon are a little smaller than those I have received from Europe. There is, otherwise, no discernible difference between the West African specimens of the "Death's Head Hawkmoth" and those of Italy, France and Germany.

## Subfamily SPHINGINÆ.

Genus **PROTOPARCE** Burm.

26. **A. fulvinotata** Butler, Trans. Z. S. Lond. vol. ix, p. 606 (1876). *Macrosila solani* (part) Walker, Lep. Het. viii, p. 206. No. 13 (1856).

I have one fine female of what I take to be this species, which is abundantly distinct from the *Solani* of Boisduval.

Kangwé (Good).

27. **P. Convolvuli** Linn. *Sphinx Convolvuli* Linn., Syst. Nat. i, ii, p. 789. No. 6 (1766).

I have several bred specimens of the species showing the female much lighter than the male.

Genus **NEPHELE** Hüb.

(*Zonilia*, Walker.)

28. **N. Accentifera** De Beauvois. *Sphinx Accentifera* De Beauv., Ins. rec. en Afrique, etc., p. 264, pl. xxiv, fig. 1 (1805), var. *Variiegata* Butler, P. Z. S. 1875. p. 15, No. 31.

A number of fine males and females of this species are at hand from Benita and Kangwé. Mr. Butler assures me that his *variiegata* is a variety of *accentifera*.

29. **N. Peneus?** Cramer. *Sphinx Peneus* Cram., Pap. Exot. i, p. 139, plate lxxxviii, fig. D (1779). *Nephele Peneus* Hopffer. Peter's Reise nach Mossambique, plate xxvii, fig. 11 (1862).

It is with some hesitation that I refer the specimens before me to *Peneus* of Cramer. His figure is wretched, whatever it may be intended to represent. The figure given by Hopffer is altogether too light in color for the forms received from West Africa, but otherwise they agree with it. The species of *Nephele* are apparently somewhat variable.

Kangwé (Good), Benita (Reutlinger).

30. **N. Comma?** Hopffer, Peter's Reise, plate xxvii, fig. 12 (1862). *Zonilia Comma* Boisduval, l. c. p. 142.

As in the case of the specimens referred to *Peneus*, so in the case of the specimens referred to *Comma*, I am in a measure of doubt. If my specimens are veritably *Comma*, then the remark of Mr. Butler, in the "Revision," must be repeated concerning them. He says: "Our example is darker and not so green as Hopffer's figure."

Benita (Reutlinger).

31. **N. Hespera?** Fabr., Syst. Ent. p. 546, No. 33 (1775). Saalmüller, Lepidopteren von Madagascar. Part I, p. 133, plate iv, fig. 42.

I have a male and female which are referable to *Hespera* of Fabricius by the exercise of some measure of laxness of construction as to descriptions and figures.

Benita (Reutlinger).

NOTE.—After having grubbed through the entire literature of the genus *Nephele* so far as known to me, I cannot but feel that there is need of a monographic revision of the genus, which will clear up the doubts and difficulties as to nomenclature, for which the wretchedly brief diagnoses of Fabricius and the more wretched figures of Cramer have given occasion.

#### Genus **ANTINEPHELE** gen. nov.

Body, as a whole, stout, fusiform and relatively short. Head small, laterally compressed with a low, but distinct crest between the antennæ. Palpi heavily scaled, stout and closely applied to the vertical front reaching to its top and apparently forming a part of the head. Eyes of medium size, without lashes. Antennæ of medium length, of almost uniform thickness from the insertion until just before the extremity of the slightly recurved tip, minutely ciliate in the male and simple in the female. Thorax stout, rounded in front; patagiæ small and closely applied. Vestiture of thorax smooth in front, tufted behind. Abdomen rather short, stout, conic, flattened on ventral aspect, with small and obscure tufts on the line of the spiracles. Fore legs without spines on tibiæ, middle tibiæ with one pair of unequal spurs; hind tibiæ with two pairs. Primaries inserted just before the middle of the thorax; costal margin straight, recurved at apex; apex rounded, external margin convex, entire; internal margin straight, or very slightly sinuous. Posterior wings subtriangular; costa straight, or feebly arcuate, external angle

rounded, external margin entire, rounded and slightly produced at the extremity of the second internal vein, thence straight to internal angle, inner margin straight, general coloration green to brown.

NOTE.—In the “Annals and Magazine of Natural History” December, 1882, p. 434, No. 6, Mr. A. G. Butler described a new hawk moth from Aburi, on the Gold Coast, to which he gave the specific name *Anomala*, and referred it to the genus *Nephele* Hüb. = *Zonilia* Walker. In doing so Mr. Butler remarks: “This singular little species has the general coloration rather of a *Diodosida* than of a *Nephele*, but in structure it appears to agree with the latter genus.” I have lately received two species of hawk moths which are plainly congeneric with *Anomala* Butl., and constitute a natural group, to which I have given the name *Antinephele*. They are distinguished from *Nephele* by the relatively shorter length of the abdomen and its flattened ventral aspect, the more rounded apex of the primaries, the crest between the antennæ, the generally smaller size and the coloration which is very different in its general style from that of any of the other species referred to *Nephele* by authors.

I locate the genus provisionally in the subfamily of the Sphinginæ. My conviction is that it belongs more properly after *Lophura*, among the *Macroglossinæ*; or, to be still more exact, that it belongs to a group of genera, of which *Lophura* is one, which should be raised into a subfamily and placed between the *Macroglossinæ* and *Chero-campinæ*.

32. **A. Anomala** Butler. **Plate III, fig. 1.** Butler, Ann. and Mag Nat. Hist. Dec., 1882. No. 6.

Two males and one female.

Benita (Reutlinger).

33. **A. Maculifera** n. sp. **Plate III, fig. 2.**

UPPERSIDE.—Palpi brown. Head brown, marked with a median line of green and a narrow white line over the eyes. Thorax green, with the shoulders and patagiæ rich maroon, ornamented with a small tuft of white scales on anterior edge. Abdomen yellow ochraceous, anteriorly shaded with green as on the thorax. Upon the top of the first segment is a triangular patch of dark brown scales. *Anterior wings*: at the base a broad patch of brown of same color as the patagiæ, reaching not quite to the inner margin, bounded on its external margin by a narrow line of white. The discal area is brown, shaded with green and crossed by a number of transverse lines. A very small and exceedingly obscure grayish white discal dot is situated at the end of the cell; a broad brown shade arising about the middle of the costa sweeps diagonally across the wing as far as vein 4 and then turns abruptly upward and finishes at the apex. The triangular

space enclosed between the costa and this broad shade is light greenish obscurely marked with brown crescents. A series of dark brown sublunate spots narrowly margined outwardly by white extends from the lowest point of this greenish triangular space on vein 4 almost to the internal angle. *Secondaries* uniformly dull black.

UNDERSIDE.—Palpi, thorax, abdomen, innerside and outer half of tibiae of hind pair of legs white. Two anterior pairs of legs brown; upon the middle of the second, third, fourth and fifth segments of the abdomen are triangular spots of bright rufous, those on the second and third segments large and conspicuous, those on the third and fourth minute. *Anterior wings* broadly brownish black, with the costa and a triple series of submarginal lunules extending from the costa two-thirds of the way to the inner angle rufous. Two small white dots are found at the apex. *Posteriors* grayish rufous, shading at the margin into blackish brown. Four or five obscure blackish bands appear upon the costa, but vanish before reaching the middle of the wings. Expanse of wings 48 mm.

Described from two specimens in coll. Holland, one of which has since been given to the British Museum.

Benita (Reutlinger).

34. **A. Muscosa** n. sp. **Plate II, fig. 8.**

UPPERSIDE.—Palpi, head, thorax and abdomen uniformly olive-green, save that in the male a very narrow white line ornaments the crest and top of the thorax. *Anterior wings* olive green over basal and discal area. This tint is terminated externally by a somewhat obscure brown shade running from beyond the middle of the costa diagonally to the internal angle, and is traversed by a number of obscure geminate olive-brown lines. The apical area beyond the diagonal brown shade is lighter green ornamented by a submarginal row of pinkish lunules and broadly shaded with dark brown on the margin below the apex. *Posterior wings* are uniformly dull black.

UNDERSIDE.—*Anterior wings* dull black, shading into reddish gray on costa and outer margin, traversed on limbal area by a triple row of reddish yellow lunules and having two minute white points at apex. *Posterior wings* yellowish brown, traversed by darker undulated lines arranged in pairs, and broadly brown on margin. Palpi, thorax, abdomen and legs, reddish cinereous. Expanse of wings 38-44 mm.

Described from three examples in coll. Holland, one of them since transferred to British Museum.

Benita (Reutlinger).





1



2



3



4



5



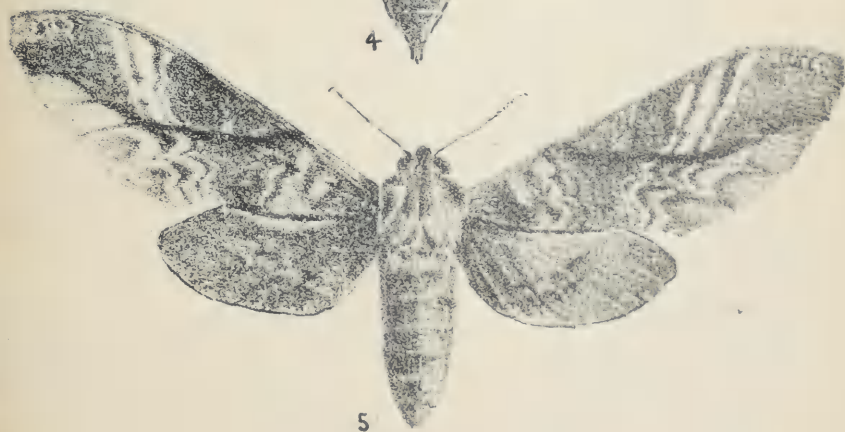
6



7



8





1



2



3